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THOMAS G. NEWMAN,
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The Honey Crop of California.

As promised last week, we give the following particulars concerning the honey crop of California for 1884, from the pamphlet of Geo. W. Meade & Co., of San Francisco. They remark as follows:

The total output of California honey, comb and extracted, for 1884, aggregating nearly the enormous total of 9,000,000 pounds, is enough to stagger the "oldest inhabitant," and has no parallel in any portion of the world. In 1878 (considered our greatest honey year) the production amounted to about 3,000,000 pounds, which was at that time looked upon as phenomenal; yet, in the year of grace, 1884, even this vast product has been almost trebled in quantity.

The total product of comb and extracted honey of the United States, exclusive of California, for 1884, is estimated at 60,000,000 of pounds, so that the single State of California has produced nearly one sixth of the entire product of the Union. San Diego is the banner county, as to quantity—with Ventura, San Bernardino, and Los Angeles following as good seconds.

It may be of some interest to make a few figures as to what such an enormous body of honey represents. For instance, if this honey was all put into a certain style of bottles which are largely used here, and these bottles were placed 8 feet apart, they would reach from San Francisco around the globe and meet again at the Golden Gate. In the United States, with its 55,000,000 of people, every man, woman and child could, at one sitting, have all the California honey they would be likely to require, and yet not exhaust the product of 1884. It would require a freight train of nearly 600 solidly loaded cars to transport this product out of the State, and, if we allow the usual distance between cars, this train would be nearly 5 miles in length. Truly is this a State "flowing with milk and honey."

From the outset, dealers, home and foreign, anticipated a large yield, and steadily refused to operate in any ex-

cept a "hand-to-mouth" sort of way. The result was that prices for extracted honey, which opened at 6 to 6½ cents per pound, declined to 4 to 4½ cents, at which figures large export orders were sent here, and heavy shipments were made on English and Continental account. These clearances soon made heavy inroads into our stocks, and, while, there are still considerable parcels held here and there throughout the State, waiting for better prices, it may be said that the bulk of the crop has now been marketed.

Some outcry has been raised in England about "glucose California honey," which is not only baseless, but senseless. The proof of this is that the article of glucose laid down in California is worth quite as much as the honey itself. Therefore, add to this cost the additional expense of tanking, mixing, the cost of new packages which would be required, all told, say 2½ cents per pound, it makes a total cost of, say 6½ cents, when the pure honey itself can be bought at 4½ cents.

Do our English friends for an instant suppose that any one here would undertake an operation of that kind? The real fact of the case is that some investigation of this charge has been made from this side, and, so far as it has been possible to trace the matter, the adulteration has been performed entirely on English soil. We advise our English cousins, therefore, "to cast out the beam from their own eye, before they discover the mote in the eye of their neighbor."

In this connection, we may add that the London *Grocers' Gazette*, in its issue of Dec. 20, 1884, just at hand, dwelling on this same subject, does our California honey the justice to practically admit that the adulteration complained of, in all probability, was performed after the goods had left California. If English dealers will take the *Grocers' advice*, and purchase California honey in California, and of well known dealers, we do not think that they will have any cause to ever complain of adulteration.

Our comb honey, in sympathy with extracted, opened dull at 12 to 13 cents per pound, from which figure it declined to 6 to 8 cents. At this low price, large shipments have been made during the fall, to all of the principal Eastern markets, and, like extracted, the bulk of the comb honey crop has now been marketed.

The trade in our comb honey, we believe, could be largely increased, if a one-pound section were adopted, instead of the two-pound, now so generally used. This latter size is too large for the average retailer, and the size of the case, instead of being 60 pounds, as at present, should be reduced to 20 or 25 pounds.

The consumption of comb honey, as yet, is confined almost entirely to the United States, but with the exercise of proper care in handling, by the various transportation companies, there is no reason why this delicious article of food should not be as common in England, and on the Continent, as it is now getting to be in this

country. We think this time will come. The quality of both our comb and extracted honey produced the past year has been superb; but the prices realized have not brought much profit to the producer. We look, however, for better things in 1885.

The Lexington, Ky., *Transcript* gives the following particulars concerning Mr. William Williamson, whose death we have before noted. He was confined to his room for four weeks, and died in the 40th year of his age. He came from Scotland in 1861, and located in Lexington in 1867. In 1869, in connection with his brother, John R. Williamson, they started in business as contractors and builders, which will still be continued, the remaining brother conducting it for the benefit of the widow and orphans, "just the same as if William had lived." The *Transcript* adds:

This is an expression of brotherly devotion that will receive the commendation of all, and all who know John Williamson are as sure that the widow and fatherless will receive every dollar of the share earned for the firm. God never created truer men than the Williamsons.

Surely prosperity must attend that business, for "a good name is better than riches."

We have received a copy of the fifth edition of "The British Bee-Keepers' Guide Book, by Thos. Wm. Cowan, F. G. S., F. R. M. S., etc." It is a pamphlet of 64 pages, nicely printed and illustrated. Mr. Cowan is Chairman of the British Bee-Keepers' Association, and is good authority on apicultural subjects generally. It has had a rapid sale in England. The first edition of 2,000 copies was sold in 2 months. The author keeps it "up to the times" by re-writing much of the matter for each edition. We can send it post-paid for 50 cents.

Burrell & Whitman, Little Falls, N. Y., have sent us their new book of illustrations of Cheese Factory and Creamery Apparatus. It is elegantly gotten up, and will, we think, meet the needs of the dairy public. It will be sent free upon application.

Catalogues for 1885.—We have received the following:

E. Kretschmer, Coburg, Iowa.
M. J. Dickason, Hiawatha, Kans.
James M. Hyne, Stewartsville, Ind.
John Herr & Co., Beaver Dam, Wis.
A. H. Duff, Creighton, Ohio.
J. C. Mishler, Ligonier, Ind.
John S. Collins, Moorestown, N. J.—Nursery Stock.
W. H. Spangler, Jr., Mount Delight, N. H.—Plants.



WITH
REPLIES by Prominent Apiarists.

Clipping the Queen's Wing.

Query, No. 33.—Is it advisable to clip the queen's wing? What has been the experience with such queens? Are they more likely to be superseded by the bees, than those having perfect wings?—Towson, Md.

DR. J. P. H. BROWN answers thus: "It is not at all advisable to clip queens' wings in an apiary where the ground swarms with ants; unless such queens with clipped wings are looked after when the bees are swarming, they may fall to the ground, and the ants will soon kill them."

G. M. DOOLITTLE says: "After practicing the clipping of queens' wings for 15 years, I am still an enthusiastic advocate of the plan, and would as soon go back to box-hives and black bees, as to leave off the practice of clipping the queen's wing. My experience with such queens proves them just as good as those having wings, and that they are no more liable to be superseded than others."

G. W. DEMAREE replies thus: "Queens with clipped wings have not given satisfaction, in a general way, in my apiary; therefore I cannot advise such a course. Colonies that have queens whose wings are clipped, and those having very old queens, for like reasons, are inclined to swarm in season and out of season. Queens with clipped wings give me more trouble than do the best of flyers."

W. Z. HUTCHINSON remarks as follows: "Colonies with queens whose wings are clipped have given me more trouble than those having queens with unclipped wings. I am not positive that a queen with a clipped wing is more likely to be superseded, but there are some 'pointers' in that direction."

DR. C. C. MILLER answers as follows: "I should dislike very much to do without clipping my queens' wings, and I doubt if it makes any difference about their being superseded."

PROF. A. J. COOK says: "It is advisable to clip queens' wings, and often, when the bees cannot be watched, it is absolutely essential to success. It is no injury to the queens, nor does the operation make the queen any less acceptable to the bees. I have practiced this largely for 15 years, and have had many such queens remain the profitable heads of colonies for 3, 4, and even 5 years. Clipping queens' wings is not only practically valuable, but it is scientific, as I have shown in my Manual."

DR. G. L. TINKER replies thus: "I advise clipping the queen's wing where the bee-master or an assistant can be on hand to attend to swarming.

They are not more liable to be superseded if it is done properly. I clip the wing as follows: "Take the queen from the comb by the wings with the right hand, transfer her to the thumb and forefinger of the left hand, holding gently by the thorax; then with sharp-pointed scissors clip only one of the larger wings lengthwise, taking off about $\frac{1}{8}$ or $\frac{1}{4}$ of the thin edge. If only $\frac{1}{8}$ is cut off, the queen may fly, but always alights close by on a small tree or bush near the ground. I have had several Syrian queens to fly with clipped wings."

J. E. POND, JR., answers as follows: "I am not an advocate of wing-clipping, and have had but little experience in that direction, simply because I find it less trouble to allow the queens to go unmaimed. I have not, however, found that those queens having clipped wings were any more liable to be superseded than others. My impression is, that superseding, as a rule, is caused by failure on the part of the queen as an egg-layer, and not on account of any clipping. I unfortunately in clipping one queen took off a leg also, but this seemed to make no difference, as she did her duty well for over 3 years, and then was lost in a swarming fit on the part of the bees."

JAMES HEDDON says: "My experience with large apiaries, continually attended during the swarming season, is, that I can get along with less labor and loss when my queens' wings are not clipped. My experience here has been that swarms having queens with clipped wings are much more liable to re-swarm. Yes, colonies will quite frequently supersede queens whose wings are clipped, though perfect in all other ways."

Comb Honey without Separators.

Query, No. 34.—Is it practicable to produce comb honey in marketable shape without the use of separators?—Pine Grove, Pa.

W. Z. HUTCHINSON says that "with the proper fixtures and bees it is, but it does not follow, as a matter of course, that it is advisable for every body to dispense with separators."

PROF. A. J. COOK says: "Yes, when men have learned how."

DR. J. P. H. BROWN replies thus: "It is. The sections should be from $1\frac{1}{2}$ to $1\frac{3}{4}$ inches wide. If you wish to use sections 1 15-16 or 2 inches wide, you had better use separators."

DR. C. C. MILLER answers as follows: "It is with some, and not with others. Perhaps the management has something to do with it. I have not made a success of it."

G. W. DEMAREE replies as follows: "With sections of proper width, and properly adjusted on the hives, I unhesitatingly answer, yes."

G. M. DOOLITTLE remarks as follows: "Not where the sections are to be glassed; and I prefer to use them always, whether the honey is to be glassed or not."

JAMES HEDDON replies thus: "In some localities, with some apiarists and with fixtures in good shape, it has proven entirely satisfactory and practical, but there are many who will gain by never giving up the use of separators."

J. E. POND, JR., answers thus: "Yes, I think it is. Sections should not be over $1\frac{1}{4}$ inches in width; $1\frac{1}{8}$ would be better still. I think, however, with bee-keepers generally, it will be found far more trouble than to use separators; so much more so, in fact, that the majority will prefer to use them, and will find that it will much more than pay the difference in expense and loss in amount of honey caused by their use."

DR. G. L. TINKER replies as follows: "It is practicable to produce comb honey in marketable shape without the use of separators, but not in a case 12 inches or more in width. I succeed admirably with a case 9 inches wide and holding 24 one-pound or 18 two-pound sections, if the foundation starters are fastened rightly. With me, separators are a nuisance."

How to Ripen Honey.

Query, No. 35.—What is the best plan of ripening honey? Here, we cannot afford to wait until it ripens in the hive, as the bees would remain idle too much of the time.—New Roads, La.

G. M. DOOLITTLE says: "Put it into 300-pound tin cans, or vessels of any kind or capacity, having such vessels in a room whose temperature can be kept at 90° to 100° for a month or so, leaving the top of the can open. Tie cotton cloth over the top to keep out dirt and flies."

G. W. DEMAREE answers as follows: "Leave it with the bees to evaporate it. Adopt the 'tiering-up' system, and your bees will not have to remain idle a moment. They will at the same time gather honey, and finish up that which has already been stored."

JAMES HEDDON replies thus: "In large apiaries run exclusively to extracted honey, I think the right method of artificial evaporation will prove in the future to be the best and most successful plan; but for a less number of colonies, it will be best that the bees ripen the honey, and, by a proper management of the 'tiering-up' plan, no time nor honey need be lost to the bees."

W. Z. HUTCHINSON remarks as follows: "I have had no experience in ripening honey outside of a bee-hive, except by exposing it in open vessels covered with muslin to exclude dust. I think that ripened by the bees is of finer flavor. If it is desirable to ripen it artificially, the evaporation can be greatly hastened by allowing the honey to slowly run from one large sheet of tin to another, from that to another, continuing this until it has passed over a sufficient number of sheets to bring it to a proper consistency. The sheets of tin can be arranged above each other."

PROF. A. J. COOK says: "Honey kept in a warm room in open vessels (the more shallow the better), with a cloth over them to protect from dust, for 2 or 3 months, will be ripened just as well as in the hive. At least I can find no one who can tell which is which. Our bee-house is single-walled, and gets very warm in June, July and August. We find that in our dry atmosphere, the honey evaporates thoroughly in this house with no extra heat. I would never let the honey remain to be capped, but I would always keep such honey in a dry, warm room, and never sell it until it was thick."

Reversing Brood-Frames.

Query, No. 36.—Are the advantages to be gained by reversing brood frames with brood, sufficient to encourage a general adoption of the practice?—Pine Grove, Pa.

DADANT & SON say: "No."

G. W. DEMAREE answers: "No."

W. Z. HUTCHINSON replies thus: "I have never used them, but they are growing in public favor, which shows merit."

PROF. A. J. COOK says that "it may be a little early to speak *ex cathedra*; but it certainly looks that way decidedly."

JAMES HEDDON remarks thus: "I think that all the advantages derived from the reversal of brood frames, more than pay for having that style of frame, if such style is not too expensive or complicated. There is a wide future before this problem, and one mostly unexplored."

J. E. POND, JR., answers as follows: "Much will depend upon surrounding circumstances and conditions. If cheap and practical frames can be devised, they will probably be found of great advantage in large apiaries. In my own, I tried them one season and made up my mind that they were indispensable. The next season the yield of honey was far different, and I found I could accomplish the same results by the use of an extractor. When a really practical reversing frame is devised, that can be furnished at a slight advance in cost over the common frame, my advice will be to those who are stocking up anew, to procure them; then they can take advantage of them (if there is any to take), or run them without reversing, as they choose."

We often get a number of notices and advertisements on Mondays, intended for the next BEE JOURNAL. As we close the forms on Saturdays, all such notices must be here on Saturday morning, or cannot appear until the following week.

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.



Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark © indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; ➔ east; ➞ west; and this ♂ northeast; ◡ northwest; ◤ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

"The Use of Drone-Traps."

CHAS. DADANT & SON.

There are "many men of many minds," indeed, and if we all agreed about every thing it would be hardly worth while to write. As a matter of course, in reply to Mr. Alley's article on page 105, we will "back up" what we said in regard to drone-traps, although we were not thinking about Mr. A. when we answered Query No. 5, and do not wish to displease any one.

To begin with, let us state, that in bee-keeping as in every business, the aim ought to be to secure the largest result with the least labor and expense. Mr. Alley does not seem to be in the habit of replacing, in his hives, the drone-comb by worker-comb, for he writes: "Would it not be a pretty job to go over 100, or even 50 colonies of bees and cut out the drone-comb and fill the places with comb foundation?" Yes, this is a small job; but after experiments, we consider this one of the most important in the bee-business, and have had it done on more than 500 colonies. As a matter of course, it cannot all be done in one day, and it can be done more easily with worker-comb than with foundation, if comb can be had. Our instructions to our men are, as soon as they detect some drone-comb in a hive, to put it at the outside of the other combs, so as to have it on hand when preparing bees for winter, or at the spring visit. Of course when this comb is once destroyed in a hive and replaced by worker-comb, it is done for ever; for bees do not change worker-comb to drone-comb. We have some colonies in Quinby hives, which, in 10 years, have not reared 500 drones. Sometimes, when a queen is old or sick, or when she lays her first eggs, she lays drones in worker-cells; but the small drones reared would pass through the holes of a drone-trap.

The removal of drone-comb is worth many dollars to the bee-keeper, for 32 drone-cells occupy as much space as 50 worker-cells and one whole comb, or 150 square inches, would produce 5,000 drones instead of 7,500 workers. When we consider that such a change, the rearing of workers instead of

drones, can be effected in a few minutes, at a trifling expense, we can but wonder that such an experienced bee-keeper as Mr. Alley seems to be reluctant about it.

Indeed, his drone-trap catches the drones; but when it removes them, they are full grown; the honey which they have absorbed is gone; the number of workers in the hive is not so large as if the combs had all been worker-combs; and the honey-crop is from 6 to 10 pounds smaller each year than it should have been, had all the drone-comb been removed. Besides this loss, it is less work to replace, once for all, in a hive the drone-combs by worker-combs, than to keep a drone-trap in front of the hive, and clean it out once or more every week during the summer. But, Mr. Alley says that the bees will rear drones in the surplus boxes. No! not if you fill the surplus frames with worker-combs.

Mr. Alley, who rears four kinds of bees in the same apiary, finds profit in using drone-traps or drone-excluders, but who besides him or a queen-dealer, makes such a business? Such traps for honey-producing bee-keepers would be a nuisance; for in summer they prevent the easy ventilation of the hive, for with them it is impossible to ventilate sufficiently to keep the bees from laying out. Thus the bees are more inclined to remain idle or to swarm on account of the increase of heat of the inside. To prevent this excess of heat, we not only raise the hives from the bottom-boards, but we often put the surplus boxes back half an inch or so to allow a draft through the brood-chamber during the hottest weather. Of course such an arrangement prevents the use of the drone-trap.

If one's neighbor is careless and has impure bees, he will rear drones by the thousands. What profit will be derived from the drone-trap in such circumstances? A few years ago we had all pure bees; one of our neighbors brought, in May, 45 colonies of black bees to within 1½ miles from our apiary. Some of his hundred thousands of drones met with our young queens. Where would have been, to us, the use of drone-traps in our apiary?

There is an easy way of improving an apiary without the use of drone-traps. If we have 2 or 3 good queens we can rear lots of queen-cells; Mr. Alley, in his book, gives us an excellent method for this. By giving a sheet of drone-comb to one of these queens, and removing the drone-comb from other hives, we will in a short time replace all worthless queens and attain the same result as by the use of drone-traps, at the same time saving a great deal of waste, as we said before.

To sum up: A careful bee-keeper can rear only the drones he needs without the use of drone-traps in his own apiary, and a careless bee-keeper will not succeed with drone-traps because he will neglect them like everything else.

Drone-traps are a nuisance:

1. Because they do not prevent the rearing of drones.

2. Because they decrease the ventilation at a time when it should be increased to such an extent as to allow all the bees to stay inside and not lay out.

3. Because they do not prevent the mating of queens with drones from the neighborhood.

4. Because they expose the queen to be mated or killed by her bees, since they prevent her from leaving the hive with the swarm.

5. Because the presence of the drone-trap, when first placed, annoys the bees and causes them often to go to the wrong hive.

6. Because they have to be cleaned often.

7. Because you cannot inspect them in several apiaries conducted under our method.

8. Because they cost money and do not yield as large profits for the expense as the method of replacing drone-comb with worker-comb in all hives except those in which it is found advisable to rear drones.

Hamilton, Ills.

For the American Bee Journal.

Almost Indigestible Apiarian Hash.

JOSHUA BULL, (12-27).

On page 73, Mr. Allen Pringle expressed himself much amused upon reading what he styled my "lament over the oblique philosophy and practical contradictions of our most modern bee-keeping;" and he seems to think that I have fallen into despair amidst the perplexity and maze of inextricable difficulties which surround me; and, therefore, extends his friendly sympathy and advice to cheer me up and give me fresh courage. I am very grateful to Mr. P. for his kind sympathy and advice.

Although myself was not aware
That I was laboring in despair;
But hoping for success.
And when by books I cannot know
Just what to do, or how to go,
I venture, then, to guess!

My notions are quite in harmony with Mr. P.'s advice, when he says: "After digesting the 'hash' placed before you, follow your own judgment." This is just precisely what I have been trying to do, but it is not an easy task for me to digest some of the "hash" so as to make it useful in forming a settled judgment. The reasons given by Mr. P. as the cause of "so much divergence of opinion and contradictory advice" may be very logical and correct to some extent, but they do not explain the whole of the muddle. What appears to me to be one great source of difficulty is, that some people are prone to "jump" at conclusions concerning things which they cannot comprehend, pen down those conclusions, and send them abroad as facts, when they are grossly mixed with error. A man may reason well so far as he is master of his subject, and comprehend fully what he wishes to explain; but when he ventures beyond the limits of his knowledge, he is mentally in the dark; "and if the blind lead the

blind, shall they not both fall into the ditch?"

The elements necessary to success in any undertaking are, a clear understanding of what needs to be done, and then to know how to perform the needful labor, and the best means to make use of to secure the desired results. Hence, it is essential that we should understand the relations of "cause and effect," and be able, so far as is possible, to trace out the original cause from present effect, and *vice versa*; and by means of such knowledge we may be able, to some extent, to apply cause to produce desired effect. When we can do this successfully, we may congratulate ourselves that we are on the road to prosperity; but in the management of the apiary there are so many varied circumstances which may affect the *modus operandi*, that it renders the business very intricate, and, consequently, extremely difficult to form any set rules which would insure success every time, and under all the divers conditions which arise from circumstances beyond our control; therefore, the necessity of being able to judge for one's self what is best to do under the exigency of the case in hand.

While thus relying in some measure upon our own judgment, we should not "dump all the authorities in a corner," as Mr. P. says he did, and not read them at all, but we should peruse them carefully, and if we do not wish to follow their directions in all their details, we may extract therefrom such ideas as commend themselves clearly to our comprehension, which may materially aid us in forming correct conclusions of our own; and by studying thoughtfully the "natural instinct" of the industrious little bees, their needs and requirements, and withal, by having a free interchange of thought, would, no doubt, substantially improve our judgment and increase our knowledge of "bee-lore." While we thus compare our ideas, one with another, let us all be willing to submit to friendly criticism, even if it should seem to obliterate some of our cherished theories. Let the truth come to the front and stand conspicuously there; for truth will triumph, whether we consent or not.

In the last paragraph of Mr. P.'s article, I think that he over-reached himself, and has "gone wide of the mark;" at least he does not make clear to my understanding what he asserts to be true; viz: "It is certain that Nature abounds in monstrosities and imperfections, and we are continually improving upon her works and methods." Now, Mr. Pringle, allow me to admonish you not to be too hasty in your conclusions about these things, but, "come and let us reason together." That monstrosities do sometimes appear among the things of Nature, I do not attempt to dispute for a moment; but it does not necessarily follow as an inevitable conclusion that those monstrosities are the legitimate results of faulty instinct or imperfections in the laws of Nature; but rather that those laws

have been intercepted and obstructed in their functions, and diverted into miscarriage and unnatural productions. Such monstrosities can never change the immutability of Nature or Nature's laws. Now, if any one can show us wherein they "are continually improving upon her works and methods," and can furnish conclusive evidence that they have made real, genuine improvement, why, then, we will "render honor to whom honor is due." But we want to know what those improvements are, and what they consist in, so that we can all avail ourselves of their benefits. One might think that he had improved upon Nature's method, when, in fact, he had only improved upon his own method of utilizing Nature.

Again, he says, "Allow me to give here one instance of imperfect instinct out of many that I have noticed." He then proceeds to relate an incident which transpired under his own observations, the circumstances of which he seems to consider as proof positive that his "foolish bees" were blindly going headlong to destruction. It may be due to my dullness of perception or lack of understanding, but in my opinion the evidence given in this instance does not justify his conclusions—nay, far from it; but on the contrary, it is an attestation of their instinctive foresight and prudence, in providing as best they could against a possible emergency. They seemed to know that their queen was liable to fail them at any time, and if she was already "in the dumps in the corner," they certainly had cause for alarm, and would have appeared very foolish indeed if they had stood by and looked idly on without doing anything to save themselves from annihilation. The only thing which they possibly could do in that direction was to rear another queen whilst the means for doing so were yet within their reach. If their feeble mother would not lay any drone eggs for them to rear drones for fertilizing the young queen, they could not help that; they were doing all that was in their power to do for "self-preservation." Now, take notice, they had not destroyed their old queen, and probably had no intentions of so doing until they could get another one in condition for laying eggs for them.

So far as my limited observations go in this queen-superseding business, the bees never kill the old queen until they have another one ready and able to perform duty. In support of this view, I submit the following evidence: During last summer two of my colonies brought out their old queens and left them dead near the entrances of the hives. On observing this, I examined them immediately with the purpose of supplying them with others if they needed any; and in each case I found a vigorous young queen with a plentiful supply of fresh eggs in the combs.

Mr. Root, in his "A B C of Bee-Culture," page 5, says: "The Italians will usually have a young queen helping her mother in her egg-laying duties before she becomes unprofit-

able." You may ask, "How do you know that those were the old queens which were brought out dead? and that those found inside were young ones?" I know, because the old ones had their wings clipped, and the wings of those which superseded them were good and sound.

It will be seen by the foregoing that I do not admit (as Mr. P. says I "must") that he has substantiated his allegations of imperfect instinct in bees or in Nature.

Seymour, O. Wis.

For the American Bee Journal.

Honey-Boxes and Comb Foundation.

J. H. ANDRE.

Although the science of bee-keeping has made rapid strides forward within the last 20 years, there are today many who are using the box-hives, and honey-boxes with one or two sides having glass slides. Much fault is found with such boxes in the market, but there are several points in their favor. They may be carried to market in any ordinary box without fear of breaking the combs, and if well sealed up with thick, gummed paper, the honey will keep through the winter without granulating, and one can afford to sell it for 1 to 2 cents per pound cheaper than the honey in small sections.

Those using such boxes will find that a neat and convenient one is made in the following manner: Take a nice white, well-seasoned basswood board $5\frac{1}{2}$ inches wide and $\frac{1}{4}$ of an inch thick, planed on both sides (if but 8 feet long it can be handled to a better advantage). Cut a groove in each edge of one side $\frac{3}{32}$ of an inch from the edge and $\frac{1}{8}$ of an inch deep, by running each piece over a saw which just comes through the saw-table. Cut the pieces to correspond with the size of the glass (glass 4×5 inches is the best size), and nail 3 pieces together, slip the glass into the grooves, put on the other piece and nail it. Now, saw the box into two parts exactly in the centre, lengthwise, drive small brads part way in, into one of the halves, one on each side of the inner edges, and then file their ends sharp; with a sharp knife the hole in the box may be easily cut, one-half in each part. Now put a piece of comb foundation in each half of the box, a trifle the nearest to the centre, and place each half on a table side by side and press them together until the brads are driven in and the halves meet; the bees will wax up all little cracks. When these boxes are filled with honey, and you want to use it, you have two nice combs not fastened to the glass at all; the boxes can be taken apart without drawing a nail, and they may be used for many years.

If foundation is not used there is no need of cutting the boxes into halves, as the comb is usually put in diagonally, and would be broken in taking them apart. Care should be taken not to nail the box where it is to be sawed in two. The holes in the boxes and hives should not be less

than one inch in diameter, and if the holes in the tops of the hives are too much filled with honey, it should be cut out each time when the boxes are changed.

I have noticed lately that some bee-keepers, or those writing on the subject, express their opinion that thick comb foundation had no advantage over thin foundation, only in holding to its place better in the brood-chamber on account of its thickness. Last season my supply of thin foundation ran short and I used some very thick foundation in the honey-boxes having glass sides. I kept strict watch from day to day, and observed that the combs did not change color until the cells were drawn out half an inch on each side, thus showing that the bees were making almost the entire comb out of the foundation. When the combs of honey were cut, but little of the cells showed white, unless they were thick combs.

I do not claim that it made the honey any better, still there has been no fault found with it, and it gives only one chance for controversy, and that is, will bees make comb faster if furnished the material than they will when building it in the natural way? I am in favor of thick foundation for the brood-chamber, and medium for the boxes.

Lockwood, O. N. Y.

For the American Bee Journal.

Wintering the Honey-Bee.

H. B. Sisson.

In bee-keeping, as in all other occupations where life is to be cared for, a proper understanding of the great laws that govern animal existence must be considered ere it can be made a success. The wintering of the honey-bee with success, is but a common-sense view and action of these great laws. If our education has been such that we were never permitted to study from books the great principles on which animal life depend, let us go to Nature and let her be our teacher, and we cannot help but learn from the very lowest grades of Nature, that which will promote life, health and success.

If we wish the honey-bee to be healthy, able bodied and ready to work, after a long, hard winter, it must have plenty of pure air and a dry bed to sleep in. Take for example the hog, which is said to be the filthiest of all animals, yet all successful farmers understand that to have healthy hogs, they must have a good, warm bed and proper shelter. How much more does this little insect, the bee, need the best of care! This is very easily accomplished when proper shelter and correct ventilation is given it. It is no longer a question in my mind, but a well established fact, from 25 years' experience, that the bee can be successfully wintered in a good cellar. I have 250 colonies in my cellar, and when the mercury was 30° below zero, I could not go into the cellar with a light without their being all in commotion.

Ottumwa, O. Iowa.

For the American Bee Journal.

Reversible Supers—Passage-Ways.

C. C. MILLER, (200—290).

I studied for some time upon a plan for reversing supers, but finally concluded to try having sections filled out full by putting a narrow strip of foundation in the bottom of the section, leaving a quarter of an inch space between this and the main starter.

CONTINUOUS PASSAGE-WAYS VS. DOUBLE AIR-SPACES.

These are about as different as we are likely to get, unless some one invents triple air-spaces. It certainly seems as if the less idle space we can have in a hive, the better for the bees, at least in cool nights when a force of bees is needed to waste their time and heat in keeping warm empty space. Moreover, it seems like a good deal of hindrance to oblige the bees to travel through two or more air-spaces.

In spite of all this, after trying the double air-spaces pretty thoroughly for two years, with a hundred or more colonies, I am decidedly of the opinion that the Heddon honey-board for best results in obtaining comb honey, is at present, at least in my apiary, indispensable. So far, I have never known a queen to come up through one of these honey-boards. The space between the top-bars of the brood-frames and the honey-board is more or less filled with comb, but never in the space above; so the supers are quickly and easily lifted off or placed on with little danger of crushing bees.

How any one can rapidly handle supers with continuous passages without killing many bees is, to me, a mystery. Some one may ask me whether I have ever tried continuous passage-ways fairly. I have not; and in general would not condemn any thing untried; but it seems to me that a jury of practical bee-keepers who have had experience as to the promptitude with which bees occupy a surface where there is a fair opportunity of their being mashed, would class continuous passage-ways among the things not necessary to be tried. I am aware that at least one man for whose intelligence I have high respect, favors them; but I also know that one of the highest authorities living, the world-renowned Dzierzon, favors movable combs with only a top-bar, so that the combs must be cut loose with a knife each time they are taken out, and drawn out by hooks something like a bureau drawer, which the same jury would be likely to condemn untried.

HOW ARE MY BEES WINTERING?

I am in pretty dense ignorance as to the outcome, and will hardly be able to answer for a couple of months. They are all in the cellar (that is, in two cellars), and I do not even know how many are alive to-day. I know of one colony that is dead, and there may be others, and it will be nothing strange if a good many more die. The weather has been so cold that a wood

fire was built in the stove in each cellar, daily, for about a month, and notwithstanding this, the thermometer stood, each morning, not above 36°, and sometimes at 28°. Quite a number of colonies show signs of diarrhea.

As to the cause of diarrhea, I am all at sea, but I am hopeful that in the vast amount of discussion, some light may be thrown on the subject. It seems rather strange that if any one of the theories is correct, that have been held up for some time, there have not been a number of cases in which the theory has been fairly tried and proved entirely successful in holding the dreaded disease at bay. With regard to the pollen theory, this much I know, that bees may winter well with an abundance of pollen in their hives, and that they may starve to death on combs of pollen, with no sign of diarrhea. Whether they can have diarrhea without any pollen in the hive, I am not prepared to say, and this last is, after all, the crucial test.

Marengo, Ills.

For the American Bee Journal.

It Pays to Use Foundation.

F. M. TAINTOR.

In the *American Apiculturist* for January, 1884, Mr. G. M. Doolittle says: "I think we have gone crazy over the use of comb foundation for the brood-frames." Well, if beekeepers have, there are a great many crazy apiarists in the world. Before I began using comb foundation I seldom had a young colony fill the brood-frames full of comb during the first season without feeding to do it. I never thought of giving sections to young colonies, and I seldom had one in the fall but what had to be fed for winter, and the next season the empty frames would be filled with more or less drone-comb, if there was not a lot built during the first season. I had not used 10 pounds of foundation before I saw that it was a great help, and worth at least \$1 per pound to me to use in the brood-frames.

Now, all I have to do when the bees swarm (I prefer natural swarming to increasing by division, although I practice both), is to hive them on 10 frames of foundation, and in 4 or 5 days they have it all drawn out, and are ready for the sections. The combs are all as straight as a board, and they are worker combs. Then I place the sections on, and if there is any honey coming in, the bees are ready for it.

I never had a young colony that stored a pound of surplus until I began using comb foundation, and now I have some that store from 25 to 75 pounds each, besides enough to winter on. As a general thing I found that it not only paid to use comb foundation, but that it paid to procure foundation machines and make my own. Foundation would be valuable if only used as guides in frames, as it would be a means of securing straight combs; but its real worth

is the best appreciated when complete frames of it are put into the brood-nest. The value of full frames of perfect worker-comb cannot be over-estimated.

Elm Grove, Mass.

For the American Bee Journal.

The Age When Bees Begin to Work.

M. L. TRESTER, (83-202).

The following shows a test which I made to determine the age at which bees begin to work in the various branches of their industry. In making the experiment, I think that there were as many or more larvae that died than the number of bees that hatched. From the date of hatching, it is evident that eggs were overlooked. It is also plain to be seen that neither eggs nor larvae will live but a very short time without the attention of the bees:

On Aug. 20, I put 22 combs of hatching brood into a hive with no bees.

On Aug. 21, at 7 a. m., it was very hot in the hive, and the larvae were dead, turning black and twisting out of the cells.

On Aug. 22, the hive weighed 38¼ pounds, and it was still hot in it, the bees could not fly, but they could sting a little. I shook about 3 quarts of bees and put a queen with them on 8 frames prepared as follows: Frame No. 1 contained foundation drawn out; No. 2, fresh comb with brood in all stages; No. 3, new foundation; No. 4, honey; No. 5, fresh comb, honey and eggs; No. 6, old eggs, and 3 or 4 live larvae, the rest being dead and some black; No. 7, the same as No. 6; No. 8, fresh comb, honey and eggs. On this day the bees began to put dead larvae out of the entrance.

On Aug. 23, the hive weighed 37¾ pounds; the bees were cleaning out the hive and fighting robber bees; the queen commenced to lay. In frame No. 6, the eggs were gone, and there were 2 live larvae; No. 7, eggs were gone; and in No. 8, the eggs were hatching.

On Aug. 24, the weight was 38 pounds, but the hive was wet when weighed. The weather was changeable, the queen stopped laying, and the bees flew a little. In frame No. 2, both the eggs and the larvae were gone, excepting a few; in No. 5 the eggs were hatching; Nos. 6 and 7, all clean; No. 8, disappearing.

On Aug. 25, the weight was 37¾ pounds. This was a good honey day, and the bees were working and carrying in pollen. In frame No. 2, the larvae were dead in the cells; No. 5, dead; Nos. 6, 7 and 8, fresh eggs.

On Aug. 26, the weight was 39 pounds. The day was gloomy. In frame No. 5, the eggs were hatching in places; Nos. 6 and 7, plenty of eggs; No. 8, hatching.

On Aug. 27, the weight was 39 pounds. The weather was rainy. Frame No. 2 contained eggs; No. 3, foundation was drawn out; No. 5, larvae growing and comb building;

No. 6, 3 or 4 larvae; No. 7, eggs hatching; No. 8, growing.

On Aug. 28, the weight was 39 lbs. The weather was hot and calm; on Aug. 29, weight 39¼ lbs., and the weather was warm and windy; Aug. 30, weight 38¾ lbs.; Aug. 31, 38¼ lbs.; Sept. 1, 39½ lbs.; Sept. 2, 40½ lbs.; Sept. 3, 42 lbs.; Sept. 4, 44 lbs.; Sept. 5, 46 lbs.; Sept. 6, 47 lbs.; Sept. 7, 48 lbs.; Sept. 8, 48 lbs.

Lincoln, Nebr.

For the American Bee Journal.

Southern Wisconsin Convention.

The Southern Wisconsin Bee-Keepers' Association held its second annual meeting in the Court House at Janesville, Wis., on March 3, 1885. The meeting was called to order by the President, and the minutes of the previous session were read and approved. Four new members were received, and all who were present paid their dues for the ensuing year. An able essay on bee-culture was read by the President.

The election of officers for the coming year resulted as follows: President, C. O. Shannon, Edgerton, Wis.; Vice-President, Levi Fatzinger, Janesville, Wis.; Secretary, John C. Lynch, Janesville; and Treasurer, H. L. Humphrey, Janesville.

Mr. Fatzinger reported that his bees were in good condition with the exception of a few colonies affected with diarrhea, which were wintered in the cellar on honey with considerable of the so-called honey-dew. Mr. Sherman put 59 colonies into winter quarters, of which 3 are dead, 2 from starvation, and the balance of his colonies are in average condition. Mr. Pomeroy reported a loss of 8 out of 9 colonies wintered out-of-doors and packed in chaff, being the first severe loss for a number of years, when wintered in the same manner. Mr. Markham had 5 colonies out-of-doors and the balance in the cellar, all being in fair condition. Mr. Mack had 10 colonies out-of-doors (5 of which died), and 80 in the cellar. Sixteen of his colonies have the diarrhea badly. All of his bees had more or less honey-dew in the fall. Mr. Inman reported 70 colonies in the cellar, all in good condition. He has not lost any bees, for a number of years, while wintering them in the cellar. Mr. Shannon wintered 9 colonies out-of-doors, and 5 of them died; the balance of his bees were in the cellar, and some are quite restless with many dead bees on the cellar bottom. He thinks that the unusual amount of dead bees may be attributed to the fact that they were mostly old bees. In the fall there was no late breeding.

The question, "How late may bees remain in the cellar with profit?" was discussed, and it was generally conceded that under favorable conditions they might be left in until maple blooms.

The usual variety of questions were asked and discussed. One year ago this Association was organized with 13 members, and it now numbers 26, nearly all being practical and suc-

cessful bee-keepers. From careful estimates it is ascertained that in our immediate vicinity there are over 200 interested in bee-culture. We cordially invite all to join us and help to make this Association second to none for mutual benefit and the promotion of scientific bee-culture.

Adjourned until the second Tuesday in May, 1885, at 10 a. m.

JOHN C. LYNCH, Sec.

C. O. SHANNON, Pres.

For the American Bee Journal.

Pollen Theory and Over-Production.

J. E. POND, JR.

Notwithstanding my last article on the subject, on page 731 of the BEE JOURNAL for 1884, there is still a radical difference between Mr. Heddon and myself in regard to the "pollen theory." In that article I suggested that the coming winter would be just the time to show whether or not all colonies (or enough of them to prove the rule) fed on sugar syrup alone, would winter without diarrhea; a far different thing from admitting that if they did it would be owing wholly to no pollen being left in their hives. I did say that Mr. H. had offered some evidence in favor of his favorite theory, but that evidence can be used also in proof of Mr. Clarke's hibernation theory, which, by the way, I firmly believe will be found to be the solution of the problem. Mr. Heddon and myself differ in this: I do not believe that the presence of pure pollen, whether sealed up as such, or found as floating particles in the honey stores, has aught to do with causing bee-diarrhea. In fact I believe that every colony will winter safely when the conditions are right, with pure pollen remaining in the hive in the ordinary quantity that is usually found at the close of the season. Allow me to ask, when or where have I ever misquoted Mr. H.? Will he please point out the spot?

He has repeatedly said that "he was sure the 'pollen theory' was correct; that the facts shown fitted that theory more closely than any other set of facts offered in proof of any other theory," etc. I am aware that he has said, "he did not know the theory to be correct," but still urged it with all the vehemence possible, even to the exclusion of other matters; leaving it to be inferred that upon the presence or absence of pollen alone depended the success or non-success of wintering. I have repeatedly said that I did not believe the theory, and I now put myself squarely on record, by saying, that when the method of positively safe wintering is discovered, it will be found to consist in some plan by which our bees can be kept in a state of quietude; in as nearly a state of hibernation as it is possible to put them. I have found it the rule in my own apiary (which, by the way, has consisted of from 5 to 50 colonies), that the colony which remained the most quiet, used up the least stores and came out the brightest in the

spring. In fact, I have wintered a colony from the middle of November to the middle of February on less than 5 pounds of stores, and that on the summer stand, and during an exceedingly severe winter.

Mr. H. and myself disagree also on the question of over-production, notwithstanding that I am taunted by him as being an amateur, and only keeping a few colonies, and that as a consequence am not qualified to discuss the question. I do believe that I know something of the laws which govern supply and demand (for I have given a little attention to the study of political economy), and that I am as well qualified to discuss the matter as though I was a specialist bee-keeper, kept 500 or more colonies, believed in the right of priority of location, and the right to pre-empt all the good fields I could find, and offer for sale those I could not conveniently occupy.

I believe, too, that the matter of supply and demand for honey is governed by the same laws that govern the matter of production generally; and that the present lack of demand and consequent low prices is owing to the ignorance of bee-keepers as to the best ways and means of disposing of their crops. I may be wrong, still I am content to leave my views to the criticism of the public; feeling assured that until the production of honey gives a larger yield than less than one ounce *per capita* for the people of the country, that I shall be deemed far wrong when I say that over-production is a bugbear which this generation need not fear.

Foxboro, C. Mass.

For the American Bee Journal.

Are Bees Taxable?

E. B. SOUTHWICK.

In reply to Mr. Unger's question, on page 88, I wish to say that as bees are qualified and not absolute property, they are not taxable without a special law to that effect made by the State (I think that Illinois has no such law); but bee-hives, combs, honey and all bee-fixings are absolute property, and any assessor has the right to assess them at their cash value, even if no other assessor in the United States does, or ever has assessed them.

As I understand it, the assessor asked Mr. U. for the number of hives, and said that he assessed them from one to two dollars each. I think that he was very reasonable and just, for it is a very poor apiary whose hives would not be worth \$1 to \$2 each, even if they were only used for kindling wood, the combs for wax, and the honey used in the family.

What has been done in the past should be no guide or rule for the present or future. We should have a rule of right and a principle of justice to guide us regardless of the past or future. Justice requires that all absolute property should be assessed and taxed according to its real value without any reserve whatever; and

when the assessors do assess our apiaries at \$1 or \$2 per hive, we ought not to complain.

Sherman, Mich.

For the American Bee Journal.

Report—Hive Door-Yards.

J. A. PEARCE.

My location is a fruit farm in Grand Rapids, Mich. I bought 3 colonies of bees for \$20, last April, and moved them 10 miles. Their hives looked as if the bees had eaten too much pollen, if Mr. Heddon is correct. They were in hives with Langstroth frames and the Heddon case. We had an abundance of fruit bloom, and they soon built up strong. White clover was also very plentiful, but there was no basswood. The fall bloom was fair. They gave me a little over 100 pounds of honey to the colony, in one-pound sections, and I have now 7 strong colonies in double-walled hives, with an airspace between the walls of the hive. I have not been able to give them perfect ventilation at all times, but I think that I can accomplish it by another winter. I mean lower ventilation, as they are covered warm above with quilts, on the summer stands.

There is one subject that has not been mentioned in the BEE JOURNAL since I have taken it, that I would like to say a word about; i. e., the "door-yard" to the bee-hive. The leading works on apiculture seem to attach some importance to a clear place in front of the hive, but none of them suggest any thing which has proven quite satisfactory. Prof. Cook recommends sand or sawdust; Mr. A. I. Root mentions coal cinders, and speaks of stretching a piece of canvas up to a hive raised a little on spring balances, and the bees stored as much in 4 minutes as they had before in 5. This carried to days, one can see what it would be.

After heavy rains and winds, when you look for the sand and sawdust, lo! they are not there; and when you seek diligently for them, they are not to be found, except only a little in the entrances of the hives. To remedy this, I took a little water-lime, say 1 to 5 of sand, and made a little door-yard to the hives nearly the shape of a large turtle's back. This keeps down all grass, is perfectly clean and hard, and the bees seem to like it. The most of the bee-men here have sand, sawdust, warped boards that the toads can sit under, tall grass, weeds, etc., before their hives.

Perhaps I am taking too much pains in this direction, and may be the bees will store just as much and as fine honey if they struggle through tall grass and weeds to get into their hives, as if they have a clear entrance. I would like to hear from my fellow bee-keepers what they use, and what they think is necessary, as I wish to be right. I give my bees fresh and salty water near their hives in inverted fruit-cans. They visit them a great deal, but the salty can the most frequently after being confined to

their hives for a day or so in bad weather. I think that the Heddon case is just the thing. I would not give a penny each for Italian queens for the purpose of Italianizing my apiary.

Grand Rapids, Mich.

For the American Bee Journal.

The Pollen Theory Has Not Gone.

W. N. HOWARD.

Not long since we read the bold assertion that "The pollen theory must go;" next comes the startling announcement that "The pollen theory has gone." Tried and convicted by a court of two. Upon what? Upon unimpeachable evidence? No; for none has been given that can surmount the undisputable facts with which it has been defended, and any one who possesses average comprehension cannot fail to see that Mr. Heddon has not admitted it incorrect, as Mr. Pond, on page 90, says.

Mr. Heddon has simply said that bees can winter in a good condition with plenty of pollen in the hives if all other conditions are right, which statement is true, and it in no way contradicts the pollen theory; for it matters not if every other cell, in all the combs in the hive, are filled with pollen, so long as the bees let it alone they will, if supplied with plenty of suitable food, be just as well off as though the pollen was 5 miles away. But as we have no knowledge by which we can at all times induce the bees to let it alone while they are in confinement, they will, in a large majority of cases, partake of it to their destruction. Small-pox, as we all know, is a highly contagious disease, yet persons who never have had the disease, nor have been vaccinated, have been in attendance upon those affected with the disease without contracting it. Yet that does not alter the fact that three-fourths of the people so exposed would contract it; and because colonies of bees are sometimes wintered with pollen in their hives in a healthy condition, it does not alter the fact that pollen is the cause of diarrhea in thousands of cases. Because A can drink a pint of whisky in a few hours and show no visible effects, it does not alter the fact that half the amount taken by B would make him drunk; and because Mr. So-and-So thinks that his bees have eaten pollen, because he finds some in the hive in the spring, and his bees are in good condition, it does not alter the fact that hundreds of colonies are afflicted with diarrhea caused by eating pollen.

If a colony of bees is wintered upon stores of the best of honey and pollen, and have the diarrhea, as we all know they do, whence comes the solid particles of brownish-looking matter found in the excrement, if it is not pollen?

Mr. Pond will, peradventure, inform us that the internal arrangements of a bee are similar to those of a hen, and these particles of solid matter found in the excrement of bees

affected with diarrhea, are simply small gravel-stones that the bees take into their gizzards to grind up the pollen into a suitable condition to perform its indispensable part in wintering bees in a sound and healthy condition.

The case of Dr. Miller's, mentioned by Mr. Corneil on page 56, is a fair sample of the conclusiveness of all the evidence offered by him in his article, and it only shows that the bees ate all their honey and then starved because a diet of this indispensable pollen would not sustain life long enough to develop diarrhea. The evidence on page 58, by Mr. C. L. Sweet, may convince some overwhelmingly, but it does not satisfy me. It will take more than a court of two to annihilate all the evidence and proof that has been given in support of the "pollen theory."

Derby, 3 Vt.

For the American Bee Journal.

Experience in Wintering Bees, etc.

C. M. DAVIS.

I have found that frequently a queen leaves a very small colony in the spring. I had such a one with a very prolific queen that deposited eggs quite awhile, but which never developed into bees; to-day I find them without a queen, but with queen-cells started. The queen was young. I also had one of the same kind to swarm out, which I found to be minus a queen; the next day I discovered a dead queen in front of a hive that had a queen. Will some Texas bee-keeper tell me whether there will be any drones to mate with queens by March 15? I do not know how bees have wintered here, but I think there must be large losses. One bee-keeper told me that he had lost all except a few colonies. Bees did very poorly here last season. I do not see why bees should not do well here, as it is a fruit-growing section. There are apples, peaches, plums, cherries, grapes, etc., with lots of horse-mint, which is said to be a great honey-producing plant, besides large varieties of wild flowers. I have kept bees for the greater part of 50 years, and I have tried to winter them in almost all kinds of places and ways with good success one time, and bad success at another time with apparently the same conditions. Three years ago I had a hole dug in the side of a sand bank about 4 feet square, 5 feet deep, and roofed over. It was covered 2 feet deep with sand, with a 3-inch ventilator. A medium colony was in the same, and it remained there from November until April 1, and to my surprise it came out in good condition with but very few dead bees on the bottom-board, and only slightly moldy. The best place that I have ever found to winter bees was in a dry, dark cellar, with frequent ventilation by opening doors or windows. A continuous ventilation would be still better if it could be controlled at any time. Bee-diarrhea will never be wholly prevented, as the

causes are as varied as the changes of weather, conditions of stores, etc., etc.

Bees never exist in an abnormal condition, or in a dormant state. I have seen bees after having swarmed and clustered for 10 or 12 hours, so close together that they would appear about as they do in cold weather; especially do they appear so early in the morning after clustering over night. Frequent changes in weather without flight, as well as frequent disturbance, tends to bring on bee-diarrhea. I have always noticed when our winters were severe, with but few changes, bees invariably come out nicely with but little if any diarrhea; but with frequent changes there is great loss by dwindling and diarrhea. I have kept only the black and Italian bees, and I had an idea that the Italians were the best workers, but I notice that opinions on this conflict.

Denison City, Tex.

For the American Bee Journal.

Nemaha County, Nebr., Convention.

The bee-keepers in this part of Nemaha county met at 10 a. m. on Feb. 24, 1885, at Johnson, and completed the organization of the "Nemaha County, Nebraska, Bee-Keepers' Association," by the election of the officers as follows: President, W. F. Wright, Johnson, Nebr.; Vice-Presidents, J. P. Miller, of Johnson, Mrs. B. Aldrich, of Brock, and H. M. Stover, of Elk Station; Secretary, R. Corgell, of Brock; and Treasurer, Wm. Steward, of Brock. The President, 1st Vice-President and Secretary constitute an executive committee.

There are at least 25 bee-keepers within a radius of 5 miles of Johnson, having from 1 to 50 colonies each. No one in this locality has taken any special interest in bee-keeping beyond the box-hive and a few pounds for home use, until within the past year. Nearly all are now wide awake to the interests of bee-keeping. It seems strange that one of the best counties of the State for fruits of all kinds, should be the smallest in the production of honey. However, Nemaha county will very soon go to the front as a honey-producing county, as it has, without any doubt, the best and greatest amount of bee-pasturage of any county of the State. About one-half of the colonies left on the summer stands have either frozen or starved; those which were protected have come through the winter in pretty good condition.

The next meeting will be held at Johnson, Nebr., on Saturday, March 14, 1885, at 10 a. m., for discussion of topics of interest.

W. F. WRIGHT, Pres.

The Northern Ind. and Southern Mich. Bee-Keepers' Association, will meet at the Court House in Goshen, Ind., on April 3, 1885. All interested in bee-keeping are invited to attend.

F. L. PUTT, Sec.

Local Convention Directory.

Time and place of Meeting.

1885.
 Mar. 26.—Tuscarawas Co., at New Philadelphia, O.
 Geo. F. Williams, Sec., New Philadelphia, O.
 Apr. 3.—N. Ind. and S. Mich., at Goshen, Ind.
 F. L. Putt, Sec., Goshen, Ind.
 Apr. 3.—N. E. Kansas, at Hiawatha, Kans.
 L. C. Clark, Sec., Granada, Kans.
 Apr. 1.—N. E. Kentucky, at Walton, Ky.
 G. W. Cree, Sec., Covington, Ky.
 Apr. 9, 10.—Western, at St. Joseph, Mo.
 C. M. Crandall, Sec., Independence, Mo.
 Apr. 11.—Wabash County, at Wabash, Ind.
 Henry Cripe, Sec., N. Manchester, Ind.
 Apr. 25.—Union, at Earlham, Iowa.
 M. E. Darby, Sec., Dexter, Iowa.
 Apr. 28.—Des Moines County, at Burlington, Iowa.
 Jno. Nau, Sec., Middleton, Iowa.
 May 4.—Linwood, Wis., at Rock Elm Centre, Wis.
 B. Thomson, Sec., Waverly, Wis.
 May 7.—Progressive, at Bushnell, Ill.
 J. G. Norton, Sec., Macomb, Ill.
 May 19.—N. W. Ills., and S. W. Wis., at Davis, Ill.
 Jonathan Stewart, Sec., Rock City, Ill.
 May 28.—N. Mich. Picnic, near McBride, Mich.
 F. A. Palmer, Sec., McBride, Mich.
 June 19.—Willamette Valley, at La Fayette, Oreg.
 E. J. Hadley, Sec.
 Dec. 8—10.—Michigan State, at Detroit, Mich.
 H. D. Cutting, Sec., Clinton, Mich.

In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Bees Having Good Flights.—5—G. A. Beech, Quitman, Mo., on March 6, 1885, says:

It has been very muddy for the last week, and the bees have had good flights during that time. Last fall I packed 35 colonies in chaff on the summer stands, and now I find 32 of them in good condition, and 3 dead.

Not Discouraged.—Henry Langkamp, (38—12), Beach City, O., on March 7, 1885, writes:

This has been a hard winter on bees. I lost 26 colonies out of 30 which were packed in Simplicity hives on the summer stands. I have 8 colonies in chaff hives, which are all alive. All of the colonies have the diarrhea, the cause being the severe winter and the existence of a cider mill within a half mile of here, last fall. I am not discouraged.

Italians vs. Brown and Black Bees.—Geo. Poindexter, Kenney, Ills., March 5, 1885, writes as follows:

Having kept the black or German bees until the last 3 years, I am now prepared to take my stand in favor of the Italians, as I have found them superior in almost every respect to the black or brown Germans, according to the color of the combs in which they are hatched. This makes the difference between the brown bees and the blacks, but no difference in the quantity of honey produced by either, as they are both the same race of bees, for by in-and-in breeding so long going on in the forests of Amer-

ica, they could not possibly have kept separate. My experience with the blacks has been that if 2 frames of brood be taken from a colony, it never rallies from the loss; if a colony loses its queen, the bees superseded her with the moth-miller. The blacks are too charitable. They will give the bee-keeper all the honey they store in the supers, and leave themselves to starve in the brood-nest. They fill the sections with pollen and drones, and in a poor honey season they call on the Italians for a few frames of honey with which to carry them through the winter. Italians bred from colonies that produce the most honey, is my motto.

Great Mortality of Bees.—5—R. P. Williams, (15—15), Goldsmith, Ind., on March 7, 1885, says:

There has been a great mortality amongst the bees in this part of the county this winter. More than half of the bees have starved to death, as the last season was a very poor one for honey, and the winter being so very cold that most of the bees were dead before the bee-keeper had a chance to examine them.

Starvation and Diarrhea.—E. B. Southwick, Sherman, Mich., on March 6, 1885, says:

I was not a little surprised to see the answers given to query No. 28 in the query department. The querist says, without any qualifications, that his bees "died from starvation," and then by describing the appearance of the inside of the hive, shows that they had the diarrhea. This is one of many hundred cases that occur every winter, which bear the unimpeachable evidence that starvation sometimes produces diarrhea. That it always does, or that diarrhea is always the consequent of starvation, I do not pretend to say, but in the majority of the instances, that is the case. The experiments of M. Chossat, in Paris, in 1843, to establish the symptoms of starvation, proves that diarrhea is the actual consequent, and comes on just before convulsions and death. It looks to me that the querist was perfectly satisfied that the cause of the diarrhea was starvation, and the query is put just to see how it could be evaded.

Bees in Good Condition.—Wickliffe Fisher, Hamler, O., on March 10, 1885, writes thus:

Bees have not wintered well in this section of the country, but by proper management my bees are in good condition, considering the extreme cold winter. As I look back over the past 11 years of my experience with bees, I can say that they have paid me a good profit, but it took me several years to learn by experience things which I could have learned by reading a single copy of the BEE JOURNAL. Although I do not wish to be classed as such, nevertheless the saying is true that "Experience is a dear school, but fools will learn in no other."

First Flight in 16 Weeks.—C. W. Dayton, (50—112), Bradford, O., on March 9, 1885, writes:

To-day the colony and the two-frame nucleus which I have packed in leaves on the summer stands are enjoying their first flight for just 16 weeks, their last flight having been on Nov. 17, 1884. Both are in good condition, and the full colony has consumed about 7½ pounds of honey during the time. The mercury varied from 43° below to 44° above zero during the winter.

Feeding Sour Honey.—O. J. Post, Chagrin Falls, O., on March 2, 1885, writes:

In the spring of 1884 I had 7 colonies of bees, and increased them to 13, which I packed on the summer stands last fall. There is but little signs of diarrhea. For the past 2 or 3 days it has been warm enough for them to fly, but I kept them in by packing snow around the hives, as I was afraid that they would fall into the snow, and then I would lose the most of them. They had splendid flights on Dec. 29 and 30, 1884. In the spring of 1884 I fed about 5 gallons of old sour honey, and the results were as follows:

Colony No. 1—cast a swarm on.....	May 21
" " 2 " " " " " " " " " "	" 21
" " 3 " " " " " " " " " "	" 18
" " 4 " " " " " " " " " "	" 18
" " 4 " a second swarm on.....	June 2
" " 5—put on 28 one-lb. sections.....	May 22
" " 6 " " " " " " " " " "	" 22
" " 7—cast a swarm on.....	" 18
" " 7 " a second swarm on.....	June 12

One swarm absconded. Nos. 5 and 6 filled the sections in apple bloom, and the honey was red and does not candy much. They have some of it for winter stores. They also gathered some honey in the fall that looks like water in a swamp—black and dirty—and is thinner than clover honey and of a different color.

Bees in Excellent Condition.—Dr. G. L. Tinker, New Philadelphia, O., on March 6, 1885, says:

My 40 colonies of Syrio-Albinos had a good flight on Feb. 28, and are all in excellent condition. Almost as many colonies have been lost in this section this winter as in the winter of 1880—81.

Wintering Bees.—J. H. Andre, Lockwood, N. Y., writes as follows:

Although I have seen so much in the BEE JOURNAL about wintering bees, yet I would like to add a few words on the subject. I think that a great many failures in wintering bees is the result of their being moved into winter quarters too early in the season, instead of leaving them on the summer stands until there has been one good, sharp, stinging freeze to put the finishing touches to ripening and purifying the honey. I do not care if the mercury goes down to 20° below zero, for one such freeze does no harm to the bees. Last season I put 25 colonies into a cellar, after the winter had gotten well started, the drain became stopped up, and water stood in the cellar under the bees all winter. They were taken out on

April 1, and the combs were so moldy that they looked like old soap-grease. All but two had increased their numbers some 50 per cent., many commenced to rear brood in February, and there was not an apiary for miles around that produced either as much comb honey or as many swarms during the past season.

Delighted Bees.—7—Z. A. Clark. (41—85), Arkadelphia, Ark., on Feb. 28, 1885, says:

We have had all kinds of weather during this month; on Monday (Feb. 23) we had a sleet that froze on the trees, thus causing great destruction of timber. But Thursday (Feb. 26) opened up warm, and my bees began to bring in pollen from maple and elm, and they seemed to be almost wild. I have one colony of Syrio-Italians that are very amiable, and fine honey gatherers. They can be handled without smoke, and appear as quiet as if the hive had not been opened. I am feeding a little now to stimulate my bees. I will soon start queen-rearing.

Losing all their Bees.—Mrs. S. C. Tyler, Utica, Mo., on March 7, 1885, writes thus:

Bees have wintered poorly in this section, some bee-keepers losing all. I lost 1 colony out of 4, and another has dwindled badly. They were all left on the summer stands protected with chaff; 2 seem to be very strong, and have had several flights, but they had the diarrhea badly, I think, for the alighting-boards, snow, etc., were badly spotted.

Shipping-Cases for Honey.—F. Wilcox, (115—165), Mauston, Wis., says:

That combined section-rack and shipping-case spoken of by Dr. W. G. Phelps, on page 120, has all the advantages which its enthusiastic friends claim, but there are also no less than 3 valid objections to it, viz: 1. The honey cannot be graded. 2. The sections cannot be scraped clean. 3. One cannot know just what kind of honey he is selling. Imagine yourself sending a sample case to some groceryman whose trade you desire to supply. You select a good looking combined rack and shipping-crate, the groceryman opens it and finds in the middle a section in which brood has been hatched, and some sections containing bee-bread, which you did not even suspect. He will think that "this is a sample crate;" and probably he will not want much more. I have used these racks for 6 years on from 15 to 40 hives, and I know something about them. I wish to suggest a slight modification of the Heddon case which makes it better for me, and I think that it will improve it for others. Put a strip of glass 2½ inches wide in one side, and cover the glass with a thin sliding board lying close against the glass. The edges of the strips which hold the glass, and the slide, being slightly beveled to hold the slide in place. This slide darkens the glass, and a cap may be dispensed with during the honey harvest.

Bees Wintering Poorly.—A subscriber from Bowerston, Ohio, on March 9, 1885, writes thus:

Bees in this section are wintering poorly, especially the blacks; the Italians faring far the best, noticeably those in chaff hives or otherwise well protected. The causes seem to be the lack of stores and the poor quality of the same, coupled with long confinement and insufficient protection.

Diarrhea with no Pollen or Brood.—Mrs. W. H. Smith, Mount Salem, Ont., on March 9, 1885, writes as follows:

On Nov. 1, 1884, I obtained 2 colonies of bees from a neighbor who intended killing them for their honey. I placed them in hives with frames already filled with comb, and fed them with syrup made of granulated sugar. In a short time they had the combs filled, and the greater portion capped, and in the last week of the same month I placed them in the bee-house whose walls are made of concrete from the bottom (which is underground about 3 feet) to the height of 4 feet, and from this upward is a frame boarded inside and out, the hollow space being filled with concrete. This morning I examined them and found that they had all died from diarrhea with neither pollen nor brood. The balance of my bees appear to be all right.

Bees Appear All Right.—W. B. Stephens, Stephens' Mills, N. Y., on Feb. 21, 1885, writes:

I have 126 colonies of bees in the cellar which appear to be all right at present. I shall try reversible frames, next season, and see whether it pays to use them.

Feeding Bees in Winter, etc.—J. C. Bale, Hamilton, Ont., on March 9, 1885, writes:

My plan of feeding hungry bees in midwinter is as follows: Make a candy on A. I. Root's plan, viz: Melt sugar in sufficient water, boil till clear, remove from the stove and stir till it becomes cloudy and begins to stiffen. Then pour this into a shallow tray made of a common frame boarded up tight on one side. When the candy is hard enough, turn the frame upside down over the cluster (first warming the candy a little, if cold), tuck the blanket snugly over all, and they will need nothing more for some time. This economizes space, causes little disturbance, and could not be handier for the bees. In 1883-84 I made my candy of very light brown sugar, and no harm resulted. If I knew how to make the "Good candy," I might prefer that. As to fastening foundation in brood-frames: I find that a rapid, clean, and neat method is to take a smooth-faced, iron tool, like a shoemaker's heel-polisher—without a flange—dip it into tepid water and press the foundation tightly to the frame in half a dozen places, and it will stick well. The top-bars or comb-guides should rest solidly on a proper sized board, the

edge of a hive cover being very good for this purpose.

Dr. C. C. Miller, president of the Northwestern Bee-Keepers' Society, writes as follows:

The question has been asked whether it will be legal for the Northwestern Bee-Keepers' Society to omit its next meeting, or to meet with the National at Detroit next fall? If, at the meeting last fall, a sufficient number had voted in favor of such change, I think that it would have been right to have made the change, and it seems to me that if the same number should now vote in that direction the effect should be the same. If I am wrong in the matter, I shall be glad to be set right. For myself I only wish to know what is the mind of the members. If such motion had been made at the last meeting, there would probably have been reasons given *pro* or *con*, and it would be entirely proper for any one to give his reasons for his preference, in print, now.

Convention Notices.

The next meeting of the Union Bee-Keepers' Association of Western Iowa, will be held on April 25, 1885, at Earlham, Iowa.

M. E. DARBY, Sec.

The semi-annual meeting of the Northeastern Kentucky Bee-Keepers' Association will meet at Odd Fellows' Hall in Walton, Ky., on April 1, 1885, at 10 a. m. A free dinner will be given by the bee-keepers of the neighborhood. G. W. CREE, Sec.

The Progressive Bee-Keepers' Association of Western Illinois will meet in Bushnell, Ills., on Thursday, May 7, 1885. Let every bee-keeper who can, be present and enjoy the meeting. J. G. NORTON, Sec.

The Tuscarawas County Bee-Keepers' Association will meet at New Philadelphia, O., on Thursday, March 26, 1885. A cordial invitation is extended to all.

GEO. F. WILLIAMS, Sec.

The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend.

E. J. HADLEY, Sec.

The Sixth semi-annual meeting of the Western Bee-keepers' Association will be held in Unity Chapel, at St. Joseph, Mo., on Felix St., between 7th and 8th streets, on Thursday and Friday, April 9 and 10, 1885, commencing at 10 a. m. on April 9. All interested in bee-culture are invited to attend and make the meeting as interesting as possible. A full programme will be prepared and a general good time may be expected.

C. M. CRANDALL, Sec.

Special Notices.

Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail postpaid.

Do not forget to send for a Binder in which to file your JOURNAL, and thus have the full benefit of it during the whole year.

We want one number each of the JOURNAL of Aug. 1886, Feb. 1887. Any one having them to spare will please send us a Postal card. We will take the first that offer them, and pay 25 cents each for the 2 numbers.

Those who have the Monthly for 1883 or 1884 will be pleased to learn that we have a few Binders still left for those years—Price 50 cents each. Send for them before all are gone, for we do not intend to get any more made.

FRUIT GROWING.—We have received a copy of an illustrated pamphlet of 64 pages, entitled "How to Propagate and Grow Fruit," by Chas. A. Green, editor of the *Fruit Grower*, Rochester, N. Y. Price 50 cents. To any one sending us a new subscriber for the Weekly or 4 for the Monthly, besides his renewal for either edition, we will present a copy of this book.

Farmer's Account Book.

This valuable book contains 166 pages, is nicely printed on writing paper, ruled and bound, and the price is \$3.00. We will club it and the Weekly BEE JOURNAL for a year for \$4.00. If you have already sent us \$2.00 for the Weekly BEE JOURNAL for a year, we will send the Book for another \$2.00, making \$4.00 in all. If you want it sent by mail, add 20 cents for postage.

We can supply these books at the publisher's price, or will make a present of one copy for every club of TEN subscribers to the Weekly BEE JOURNAL for one year, with \$20. Four subscribers to the Monthly will count the same as one for the Weekly.

Now is the time to get up Clubs. Who will work for a copy of this valuable book.

CLUBBING LIST.

We will supply the American Bee Journal one year, and any of the following Books, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	Club
The Weekly Bee Journal.....	\$2 00..	
and Cook's Manual, latest edition	3 25..	3 00
Bees and Honey (T.G. Newman) cloth	3 00..	2 75
Bees and Honey (paper covers).....	2 75..	2 50
Binder for Weekly Bee Journal.....	2 75..	2 50
Apiary Register for 100 colonies.....	3 25..	3 00
Dzierzon's New Bee Book (cloth).....	4 00..	3 00
Dzierzon's New Book (paper covers)	3 50..	2 75
Quinby's New Bee-Keeping.....	3 50..	3 25
Langstroth's Standard Work.....	4 00..	3 75
Root's A B C of Bee Culture (cloth)	3 25..	3 10
Alley's Queen Rearing.....	3 00..	2 75

The Weekly Bee Journal one year

and Gleanings in Bee-Culture (A.L. Root)	3 00..	2 75
Bee-Keepers' Magazine (A.J. King)	3 00..	2 75
Bee-Keepers' Guide (A.G. Hill)	2 50..	2 25
Kansas Bee-Keeper.....	3 00..	2 75
The Apiculturist, (Silas M. Locke) ..	3 00..	2 90
The 6 above-named papers.....	6 50..	6 00

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Single copy 5 cts.; per doz., 40 cts.; per hundred, \$2.50. 500 will be sent postpaid for \$10.00; or 1000 for \$15.00. On orders of 100 or more, we will print, if desired, on the cover-page, "Presented by," etc., (giving the name and address of the bee-keeper who scatters them). This alone will pay him for all his trouble and expense—enabling him to dispose of his honey at home, at a good profit.

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All who intend to be systematic in their work in the apiary, should get a copy and commence to use it. The prices will hereafter be as follows:

For 50 colonies (120 pages).....	\$1 00
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The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable ones.

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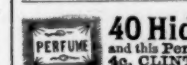
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